What is claimed is:

1. A switch for switching over a signal propagation path by attracting or repelling a movable member to or from an electrode, the switch comprising:

an input port for inputting a signal;

a movable member connected to the input port;

a first electrode for propagating the signal;

a first control power supply connected to the first electrode and for generating a control signal;

a second electrode for blocking off the signal; and

a second control power supply connected to the second electrode and for generating a control signal;

whereby the first control power supply provides a control signal to the first electrode, the movable member being displaced by a driving force generated based on a potential difference between the movable member and first electrode and a potential difference between the movable member and second electrode, thereby being attracted to the first or second electrode.

2. A switch according to claim 1, wherein the driving force is an electrostatic force.

3. A switch according to claim 1, wherein the movable member is vibrated at all times.

4. A switch according to claim 1, wherein the movable member is alternately displaced to the first electrode and the second electrode.

5. A switch according to claim 1, wherein the movable member is vibrated from a position distant from the first electrode and the second electrode.

6. A switch according to claim 1, wherein the movable member is vibrated in a state attracted on the first electrode or the second electrode.

7. A switch according to claim 1, wherein the control signal for vibrating the movable member has a frequency equal to a self-resonant frequency of the movable member.

8. A switch according to claim 1, wherein the control signal for vibrating the movable member has a frequency corresponding to a speed faster than a desired response speed.

9. A switch according to claim 7, wherein the self-resonant frequency is a frequency corresponding to a speed faster than a desired response speed.

10. A switch according to claim 1, wherein the movable member is vibrated in a state attracted on the first electrode or the second electrode, thereby releasing the movable member from the first or second electrode.

11. A switch according to claim 10, wherein said control signal is further supplied to said first or second

electrode, after releasing the movable member from the first or second electrode.

12. A switch connecting a plurality of the switches according to claim 1, into one switch.

13. A switch according to claim 1, wherein the movable member and the electrode has a contact interface in a waveform or rectangular form.

14. A switch according to claim 1, wherein the control signal from the control power supply is such a signal as to apply to the movable member a force in a pulse form in a time shorter than a response time of the movable member.

15. A switch according to claim 1, wherein further comprising a temperature measuring means for measuring temperature in or near the switch, and said control signal from said first or second control power supply is adjusted by the measured temperature.

16. A switch according to claim 6, wherein the control signal is controlled to apply to the movable member a force in one direction corresponding to a magnitude of an overshot that the movable member displaces beyond a predetermined position.

17. A switch according to claim 14, wherein the pulse-formed force has an application time that is a half in length of an application time of a pulse-formed force

causing the movable member to overshoot to a position at which is to occur pull-in for the movable member to be abruptly attracted to the electrode, under an optimal condition of a magnitude of an overshoot of the movable member and the response time.

18. A switch according to claim 17, wherein the optimal condition is that the overshoot is in a magnitude of substantially 0.1 μm or smaller and the response time is substantially 20 μs or shorter.

19. A switch according to claim 1, wherein the control signal is provided such that a force in a direction opposite to a direction of an overshoot and corresponding to a magnitude of the overshoot is alternately applied to the movable member at all times.

20. A switch according to claim 19, wherein the force in a direction opposite to a direction of an overshoot and corresponding a magnitude of the overshoot is asymmetric with respect to a direction.

21. A switch for switching over a signal propagation path by attracting or repelling a movable member to or from an electrode, the switch comprising:

an input port for inputting a signal;

a movable member connected to the input port;

an electrode for propagating a signal; and

a control power supply connected to the electrode and for generating a control signal;

whereby the signal propagation path is switched over by the use of, as a driving force, a Lorentz force of an attractive or repelling force caused by flowing a current to the movable member and electrode by the control power supply.

22. A switch according to claim 21, wherein any one of the movable member and the electrode is made highly resistive, wherein, in a state the movable member and the electrode are attracted together by an attractive force, the movable member or electrode is inverted in polarity, in which instance the movable member and the electrode become a same polarity to thereby cause a repelling force to be used as a driving force.

23. A switch according to claim 21, wherein an insulation layer formed on an electrode between the movable member and electrode uses a high dielectric insulation material having a comparatively low polarity inversion speed, wherein, in a state the movable member and the electrode are attracted together by an attractive force, the movable member is inverted in polarity, in which instance the movable member and the insulation layer surface become a same polarity to thereby cause a repelling force to be used as a driving force.

24. A switch according to claim 21, the movable member and the electrode has a contact interface in a waveform or rectangular form.

25. A switch according to claim 1, wherein said control signal is determined by motive equations relating to position of said movable member.

26. A switch according to claim 1, wherein said power of said control signal is determined by a balance between a potential of said movable member and a static potential of said power.